

REMARKS

Applicants have added claims 8-12 to more particularly point out and distinctly claim the subject matter which they regard as their invention. Support for these new claims can be found in the specification, i.e., Examples 1-9 at pages 22-23 and 25-26 and Table 1 at page 25.

Upon entry of the above amendments, claims 1-12 will be pending and under examination. Reconsideration of this application, as amended, is requested in view of the remarks below.

Rejection under 35 U.S.C. § 112, first paragraph

The Examiner rejects claims 1-7 for lack of enablement. More specifically, referring to the orientation degree between 0.5 and 1.0 required in these claims, he asserts that “[t]he claimed invention is not supported by examples commensurate in scope.” See the Office Action, page 2, lines 8-11. It appears to be the Examiner’s belief that the claims should have the same scope as working examples provided in the specification.

Applicants submit that the law does not require that the claims and the working examples have the same scope. Indeed, it is clear that the specification does not necessarily contain an example. See *In re Borkowski*, 422 F.2d 904, 908, 164 USPQ 642, 645 (CCPA 1970).

According to MPEP 2164.02:

[f]or a claimed genus [here the claimed mold products], representative examples together with a statement applicable to the genus as whole will ordinarily be sufficient if one skilled in the art (in view of level of skill, state of the art and the information in the specification) would expect the claimed genus could be used in that manner without undue experimentation.

Claims 1-7 cover a heat conductive liquid crystal mold product, which contains a liquid crystal polymer having an orientation degree between 0.5 and 1.0. The present specification provides nine working examples in which mold products containing a liquid crystal polymer of the orientation degree between 0.71-0.91 were made by using the magnetic flux densities between 2.5 to 10 tesla. Although the specification does not show any actual example in which

the orientation degree is from 0.5 to 0.71 and from 0.91 to 1.0, it provides a general teaching of applying a magnetic field of the magnetic flux density between 1 and 20 tesla to a liquid crystal polymer to orient it to the orientation degree between 0.5 and 1.0, as required in claims 1-7. See page 15, line 31 through page 16, line 10. One skilled in the art would expect to obtain the claimed mold products (including those featuring polymer orientation degree of 0.5-0.71 and from 0.91-1.0) by applying a magnetic field with various magnetic flux densities between 1 and 20 tesla. The techniques required in applying a magnetic flux density from 1 to 20 tesla are routine, like those used in the examples in which magnetic flux densities between 2.5 to 10 tesla were applied. Thus, one skilled in the art would expect the claimed mold products could be made without undue experimentation.

Of note, the specification states at page 21, lines 20-23 that “the present invention may be embodied in many other specific forms without departing from the spirit and scope of the invention.” This statement should meet the “statement applicable to the genus as a whole” requirement set forth in MPEP 2164.02.

The Examiner also asserts that “[t]here are no teachings how to make and/or select the liquid crystal polymer [having an orientation degree of 0.5 to 1.0] from the enormous known polymers in the art except those exemplified in the specification.” See the Office Action, page 2, lines 11-13.

Applicants disagree. The specification teaches orienting a known polymer to the orientation degree of 0.5 to 1.0 by applying to them a flow field, a shear field, a magnetic field, or an electric field. See page 15, lines 5-8. It further teaches determining the orientation degree by first using wide-angle X-ray diffraction measurement to obtain an intensity distribution of diffraction and then converting it to the orientation degree. See page 13, line 11 through page 14, line 2. Thus, contrary to the Examiner’s assertion, the specification teaches how to make and select from known polymers the liquid crystal polymer having an orientation degree of 0.5 to 1, as required by claims 1-7. As all the techniques required are routine, one skilled in the art would be able to make the required liquid crystal polymer without undue experimentation.

Applicant : Masayuki Tobita et al.
Serial No. : 10/686,384
Filed : October 14, 2003
Page : 6 of 6

Attorney's Docket No.: 14157-
014001 / P1P2003172US

In view of the above remarks, Applicants submit that the specification provides sufficient enablement for claims 1-7.

New Claims

Claims 8, 10, and 12, dependent from claim 1, recite an orientation degree range of 0.71 to 0.91. As discussed above, this range is specifically supported by the nine working examples described in the specification. Thus, the specification provides actual enablement for claims 8, 10, and 12.

New claims 9 and 11, both dependent from claim 1. They cover a heat conductive liquid crystal mold product, which contains a liquid crystal polymer having an orientation degree between 0.5 and 1.0. For the reasons set forth above, the specification also provides sufficient enablement for these new claims.

CONCLUSION

Applicants submit that rejection asserted by the Examiner has been overcome and that pending claims 1-12 define subject matter supported by the specification. Applicants ask that all pending claims be allowed.

Enclosed is a \$120 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date:

7-24-06

Y. Rocky Tsao

Y. Rocky Tsao, Ph.D., J.D.
Attorney for Applicants
Reg. No. 34,053

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110
Telephone: (617) 542-5070
Facsimile: (617) 542-8906